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ABSTRACT

This document presents a critique of the "Education" portion of Chapter V of the report entitled "Work in America," available as ED 070 738. The critique was prepared by a special committee on the Center for Adult, Vocational, Technical, and Manpower Education of the Bureau of Adult and Occupational Education, Office of Education, because this particular part of the report had appeared to some persons as an attack on vocational education. The committee chose two evaluation approaches, the first a conceptual one to determine underlying assumptions relating to that part of the report and the second an analytical study to determine if the report contained inadequacies which resulted in faulty findings. Excerpts from previous reviews of the study portion of the report are presented, followed by a section concerned with the apparent conceptual framework in the "Work in America" portion being analyzed. This section of the critique lists 15 underlying assumptions, with the study committee's comments on each. A paragraph-by-paragraph content analysis of the work reviewed constitutes the largest part of the study. An "index of inadequacy" summarizes the findings of this content analysis, with an average of 4.2 inadequacies per paragraph found according to the evaluation criteria used. (MF)

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A CRITIQUE OF THE EDUCATION PORTION

OF

CHAPTER V- "WORK, EDUCATION, AND JOB MOBILITY"

OF

WORK IN AMERICA

BY A
SPECIAL COMMITTEE
FROM THE

CENTER FOR ADULT, VOCATIONAL, TECHNICAL, AND MANPOWER EDUCATION
Bureau of Adult and Occupational Education
U.S. Office of Education
Washington, D.C.

"... Certainly reasonable men may
reasonably disagree with some
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Elliot L. Richardson

August 1973

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FOREWORD

When Work in America was first published, as a report of a Special Task Force for the then Secretary of Health, Education, and Welfare, Elliot L. Richardson, educators of diverse disciplines acknowledged its potential impact on education and manpower training policy and programs.

In the spirit of open discussion which Secretary Richardson encouraged for this report, I requested a special bureau committee, representative of Adult, Vocational, Technical and Manpower Education, to critique Chapter V of Work in America, entitled "Work, Education, and Job Mobility." Because this particular chapter has been singled out by some as an attack on vocational education, the committee chose two approaches. One, a conceptual one to determine underlying assumptions, if any, of the "Education" portion of Chapter V; and, two, an analytical study of this same part to determine if inadequacies were present which resulted in faulty findings.

The special committee did, of course, read with interest the entire publication; they found, for example, the introductory chapter to be especially insightful but the following chapters not to be as informative. Indeed, there are sections in Chapter V which seem to contradict concepts discussed in earlier chapters of the report.

While the resulting review of the Chapter on "Work, Education, and Job Mobility" does not represent unanimous point of view of the committee members, it does provide an examination of the facts

surrounding, particularly, the education section and a caution to readers of Work in America, especially with regard to the use of the conclusions as stated in Chapter V.

Because of the implications for Vocational Education in particular it would seem that its preparation deserved a more complete hearing, not a cursory view of the literature. As another examination, therefore, of "Work, Education, and Job Mobility," we offer the following study.

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INTRODUCTION

The publication, Work in America, has created some controversy among professionals in the field of vocational education. Of particular concern is material found in the Education portion of Chapter V, Work in America which deals with Education and Vocational Education.

Perhaps much of the great concern about the Education portion of Chapter V could have been avoided had the authors of Work in America followed the Newman Commission's procedure of allowing knowledgeable educators to review a draft of the Chapter, but this courtesy was not extended.

James O'Toole, a social anthropologist, serving as a staff assistant to Secretary of HEW, Elliot L. Richardson, chaired a ten-member Task Force to conduct a study. The report which resulted was entitled, Work in America, and was released in December of 1972 along with a cautious foreword by Secretary Richardson.

Dr. Po-Yen Koo [1] in commenting on the publication, states:

> "Vocational Education is important enough to have sound criticism. The attack on vocational education in Work in America is based upon inaccurate citations and irresponsible misinterpretations, and therefore, cannot be accepted either as a piece of scholarly work or as evidence to be considered seriously. It is noticeable

[1] Po-Yen Koo, "A Rebuttal to the Attack on Vocational Education in Work in America, An H.E.W. Report," Feedback of Occupational Research and Development (Volume 8, No. 1), The New Jersey State Department of Education, p. 5.

> that Mr. Elliot L. Richardson, former Secretary of HEW, seems to take the same stand as he wrote in the FOREWARD for the REPORT: 'Certainly, reasonable men may reasonably disagree with some of the particulars of this study (I do myself). One could wish that data on which some of its conclusions are based were more adequate. Some of its suggestions, moreover, cannot by their nature and extent be lightly accepted.'"

Dr. Gordon Law [2] in speaking for the professionals of the American Vocational Association states:

> "... The American Vocational Association wishes to express grave concerns regarding the reliability of Work in America, especially that section of Chapter V which deals with Vocational Education. We believe that this section is so incomplete and inaccurate, so limited in perspective, so full of bias and shoddy scholarship, that it could not be allowed to stand."

The New Jersey State Department of Education publication, Feedback of Occupational Research and Development, (Winter 1973), was devoted to Work in America. In this issue, Dr. Morton Margules [3] wrote:

> "This special issue of Feedback is centered around an irresponsible attack on Vocational Education by a high level task force reporting to the Secretary of Health, Education, and Welfare. Work in America is the report. The Task Force was chaired by Dr. James O'Toole. ..."If federal cutbacks for Vocational Education need to be justified by federal budget axmen, they will have

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[2] Gordon Law, "Statements regarding Work in America", Unpublished Paper, 1973, p.5.

[3] Morton Margules, "Attack on U.S. Vocational Education by an H.E.W. Report, Work in America, Based On Shoddy Scholarship," Feedback of Occupational Research and Development (Volume 8, No. 1), The New Jersey State Department of Education, p.1.

to look elsewhere. They have no support for their actions in Work in America. As a matter of fact, since much of its content lacks credibility, the whole report is suspect."

"One need not look for a hidden agenda in understanding the radical and irrational attacks on vocational education or on any other program in health, education, and welfare contained in the report. The agenda is openly stated by HEW Secretary Elliot Richardson in his foreword to the report: "I...find much in this report that bears on other policy issues on the national agenda. Its attack on the categorization and fragmentation of manpower training and education programs points up a problem that has long preoccupied my attention, particularly at HEW. I am fully more convinced than ever before that the only sensible thing to do is that which the President has proposed in his Special Revenue Sharing and Allied Services bills: to consolidate funding, increase the flexibility in the authority of State and local governments, and pull together programs that serve whole people and families."

Koo [4] indicated:

"Inasmuch as a large portion of high school students cannot or do not go to college, and others still wander about in the general curriculum or simply drop out of school, vocational education must be available both at the secondary and post-secondary levels to serve youth and society. Indeed, the need for vocational education for youth and adults seems to be increasing each year, and the report has done nothing to discount such a basic need or to show the ineffectiveness of the present secondary or post-secondary vocational education programs for meeting that need."

Additional commentary on the report has been made by Dr. Carl Schaefer [5] whose work is quoted in Work in America.

"The Report's rhetoric demonstrates basic needs for those who are placed in such high level task forces: (1) to review research finding for themselves in some detail; (2) to have the

[4] Koo, Op. cit., p.6.

[5] Carl J. Schaefer, "The Content of Work in America Is Inaccurate, Ill-Conceived, and Poorly Stated," Feedback of Occupational Research and Development (Volume 8, No. 1), The New Jersey State Department of Education, p.3.

support of competent and knowledgeable staff when writing a final report; and (3) to process some first-hand acquaintanceship with the problem being studied. It seems that the Task Force's Report reflects shortcomings in all three.

"When they read this publication I am sure that there will be a sizable portion of the American work force who will recognize that more has been left unsaid about Work in America than has been said. And even more will recognize that what has been said is inaccurate, ill-conceived, and poorly stated. I suggest that readers of the Report concern himself with the first and the last chapters, and view the chapters in between with considerable skepticism."

Law's 6/ evaluation of the report states:

"But when we review the section of this report that relates to vocational education, we find some sweeping indictments and simplistic solutions phrased in slanted, pedantic, quasi-scientific jargon which clearly reveals that its authors know little about vocational education and less about research.

In spite of the fact that the Task Force group includes a number of well known scholars, and others are to be found in the list of consultants and authors, there is a notable lack of responsible scholarship inherent in the language of this report. Those of us who think of research as a systematic control and critical investigation which is carefully designed to eliminate the forces of personal cant and bias find it impossible to look upon Work in America as the product of serious research.

The American Vocational Association is especially concerned about the sweeping generalizations relating to vocational and career education that appear...in the report. Several of these statements, couched in quasi-scholarly jargon, are simply untrue. They are based on the most irresponsible form of slanted reporting and selective research. Apparently care was taken to search out specific portions of selected research studies that identified only the least successful aspects of vocational education. Taken out of context, they convey a message that is incomplete, unbalanced, and certainly far from impartial."

6/ Law, Op. cit. p.1.

UNDERLYING ASSUMPTIONS

UNDERLYING ASSUMPTIONS

This section of the critique is concerned with the apparent conceptual frame-work upon which the authors based the writing of the Education portion of Chapter V. It is important for readers of the Education portion of Chapter V of Work in America to understand the apparent conceptual frame-work or assumptions upon which the Education portion of Chapter V is based in order to determine the merit or lack of merit of the Chapter.

There are many implicit assumptions in the Education portion of Chapter V. However, this section of the critique will identify only a few and provide comments regarding these assumptions. There are numerous minor assumptions in the Education portion of Chapter V, but these are not identified in this critique due to their lesser importance.

Apparently, much of the authors' conceptual frame-work for the Education portion of Chapter V was influenced by Chapter 18, "Education In The Future Tense" in Alvin Toffler's 7/ book entitled, Future Shock, which is "futurism" oriented. Thus, the prudent reader of the Education portion of Chapter V of Work in America should also read and judge the merits of Chapter 18 in Future Shock. In brief, the Chapter on education in Future Shock indicates that the world is

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7/ Alvin Toffler. Future Shock, Bantam Books, 1970.

changing so rapidly that educational systems should primarily orient or educate students for rapid change. Consequently, almost everything that education is now doing is meaningless with this concept of "futurism." One major problem with Toffler's arguments, as well as with the content of the Education portion of Chapter V in Work in America, is the lack of discussion of mankind's basic needs, and the apparent lack of an appreciation or at least a discussion of the political, social, economic, scientific, educational and cultural heritage of this nation, in favor of discussing a "super-industrial," "technological," or a "futurism" oriented society.

The basic needs of mankind have not greatly changed through the eons. Yet Toffler and the other authors of the Education portion of Chapter V of Work in America apparently have failed to recognize that a new generation of humans occurs approximately every twenty years. Each new cycle of humans starts with basic needs, and these basic needs mature and change as the human organism matures and changes.

The remainder of this section of the critique identifies some of the assumptions of the Education portion in Chapter V of Work in America. The assumptions are underlined and comments are provided in the parentheses following the assumptions.

ASSUMPTION NO. 1: THIS NATION'S EDUCATIONAL SYSTEM SHOULD BE "FUTURISM" ORIENTED.

(The authors of the Education portion of Chapter V of Work in America clearly do not understand the history of this nation, the history of the development of education, nor have they been able to explicate the role or function of education in a "futurism" oriented society. In the same fashion as Toffler, the authors of the Education portion Chapter V criticize this Nation's educational system without providing adequate evidence regarding "where it has been", "where it is now", or "where it should go." Futurism, as a concept has little to offer unless values are described, directions are established, and these directions must be predicated upon where society, mankind, this Nation, and the educational system is at the present time. One should not blithely discount the past and present, while suggesting future directions for the educational system, without providing substantial evidence upon which to base the suggested directions.)

ASSUMPTION NO. 2: THE GOAL FOR THIS NATION IS SUPER-INDUSTRIAL EDUCATION AND SUPER-INDUSTRIAL EDUCATION ENCOMPASSES THE PURPOSE AND NEEDS OF MANKIND.

(Industrialism and technology become ends in themselves to which man must accommodate. The authors are concerned about the unknown future in a mystical way, they seem to suggest that education must help mankind accommodate to the future rather than perceiving education as

a process which helps one to understand the past and the present; along with the development of insights regarding our social and cultural institutions, as a means of both preparing for the near future (jobs, family, politics, religion, etc.), and shaping the distant future.)

ASSUMPTION NO. 3: THAT EDUCATION IS PATTERNED AFTER INDUSTRIALISM AND THAT IN ITS VERY STRUCTURE, IT SHOULD BE PATTERNED TO MEET INDUSTRIAL NEEDS.

(A study of the history of education would quickly show that education was not patterned after industrialism, although it may have accommodated to industrialism in some instances. Since capitalism is an economic tradition in this nation, the concern for substantially increasing the number of capitalists in the nation might have been one of the many possible major goals of education for the nation. In any event, knowledgeable persons understand that public education should be designed to serve the needs and welfare of the populace rather than being designed to accomplish one concept. A major characteristic of education in the United States is the fact that education is a State Constitutional function. Almost every State, after the original thirteen States, was required to include education as a State Constitutional responsibility upon entry into the Union.)

ASSUMPTION NO. 4: THIS NATION'S EDUCATIONAL SYSTEM IS INADEQUATE AND INAPPROPRIATE.

(The authors conducted a study or an investigation, but a thorough investigation of the literature was not conducted as attested by the

bibliography and by the use made of the limited bibliography. Condemnation of this Nation's educational system is predicated on the perception of what the Nation's educational system should be rather than being based on hard evidence. Nearly one-third of the Nation's populace is actively engaged in education, thus any but the most intensive, scholarly study will fall far short of even describing this Nation's educational system, let alone evaluating it.).

ASSUMPTION NO. 5: NATIONAL CONCERN FOR THE WELFARE OF INDIVIDUALS IS LESS IMPORTANT THAN THE CONCERN FOR BUSINESS AND INDUSTRY.

(The Chapter suggests that the less educated worker stays on the job longer, is more productive, and more satisfied with his role. The implication of such a suggestion is that the welfare of the employer is more important than the welfare of the employee.)

ASSUMPTION NO. 6: THE NATION'S EDUCATIONAL SYSTEM SHOULD BE USED TO PRODUCE SATISFIED WORKERS.

(This assumption implies a class society in which public education is used to produce students who will be satisfied with work that is provided.)

ASSUMPTION NO. 7: THE NATION'S EDUCATIONAL SYSTEM SHOULD PRODUCE WORKERS RATHER THAN CAPITALISTS.

(The chapter mentions entrepreneurship, but stresses the satisfied worker.)

ASSUMPTION NO. 8: THE IMPLICIT VIEW THAT MAN IS INHERENTLY UNDISCIPLINED AND IGNORANT.

(This is both an elitist and a seventeenth century point of view. The Declaration of Independence, the Constitution of the United States, and the Bill of Rights have profoundly argued for the welfare and basic rights of "man", because of his intelligence and his ability to discipline himself through self-government -- "Government of the people, by the people, and for the people.")

ASSUMPTION NO. 9: THE NATION'S EDUCATIONAL SYSTEM IS RIGID, AUTHORITARIAN, STRUCTURED, AND UNITARY IN NATURE.

(If one could characterize public elementary and secondary education along with vocational education, it should be characterized as a "cottage industry" with entrepreneurial employees (teachers) who teach in self-contained classrooms. There are fifty States and six outlying areas each with a unique educational system, and there are over 15,000 local school systems; some of the school systems are rigid, some are flexible, some are permissive, etc.)

ASSUMPTION NO. 10: THE NATION'S SCHOOLS ARE MOST PROFICIENT IN THE FUNCTION OF PROVIDING INFORMATION AND SUBJECT MATTER.

(Schools are capable of providing only an infinitesimal amount of available information in the world to a given student, but basic skills and processes needed in society are taught to most students along with an understanding of group and basic human needs.)

ASSUMPTION NO. 11: THE NATION'S EDUCATION SYSTEM SHOULD POSTPONE VOCATIONAL TRAINING UNTIL THE POST-SECONDARY LEVEL.

(Since the vast majority of this nation's young do not participate in formal post-secondary education, the assumption begs reality. Post-secondary costs substantially exceed elementary and secondary school costs, thus the logic of the assumption, on a cost basis alone, is difficult to understand.)

ASSUMPTION NO. 12: THIS NATION IS SPENDING OR ALLOCATING AN ADEQUATE OR APPROPRIATE PERCENTAGE OF THE GROSS NATIONAL PRODUCT FOR EDUCATION.

(The Education portion of Chapter V suggests the need to expand adult education and suggests that funds should be reduced from elementary and secondary education in order to support expanded post-secondary education services. This suggestion implies a ceiling for educational expenditures in relation to the gross national product. Even though one-third of the Nation's populace is involved in education, only eight percent of the gross national product is being utilized to support this endeavor. It should be pointed out that post-secondary education expenditures in this Nation nearly equal elementary and secondary education expenditures even though post-secondary education serves only a fraction of the number of students served by elementary and secondary education. Thus, the transfer of funds from public elementary and secondary education to post-secondary education would not materially alleviate the expenditure problem at the post-secondary level.)

ASSUMPTION NO. 13: THE CONCEPT OF CAREER EDUCATION IS NARROW AND NEARLY SYNONYMOUS WITH VOCATIONAL EDUCATION.

(Since the concept of career education has not yet been universally defined, it can hardly be characterized as being narrow.)

ASSUMPTION NO. 14: THOSE INVOLVED IN EDUCATION SHOULD LEARN MORE ABOUT THE WORLD OF WORK.

(Obviously, additional insights on the part of the educator about the "world of work" would be advantageous. It is equally obvious that additional insights and knowledge about the history and current philosophies of education as well as educational trends would be helpful to the non-educator and to those who write about the field of education.)

ASSUMPTION NO. 15: THE ECONOMY OF THE NATION CANNOT EXPAND FAST ENOUGH TO ABSORB THE HIGHLY EDUCATED PERSONS BEING PRODUCED BY THE NATION'S EDUCATIONAL SYSTEM.

(The chapter assumes a status quo or slow growth in the Nation's economy without exploring alternatives for improving economic growth or for utilizing the reservoir of highly educated and talented persons now available.)

CONTENT ANALYSIS BY PARAGRAPH

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A paragraph-by-paragraph analysis has been made of the Education portion of Chapter V of Work in America. This section of the analysis of Work in America represents a compilation of rebuttal statements by outstanding educators, factual data, or Committee reactions related to the paragraph under discussion. The first 32 paragraphs of Chapter V are not covered here as they are not germaine to vocational education.

The paragraphs of the Education portion of Chapter V of Work in America are included in small print. The rebuttal statements follow the small print, or the paragraphs numbered on the left.

33 **Education**

In our exploration of the interrelationships between work and education, the following shortcomings became evident:

1. The market value of education has driven out its other values. One consequence of this has been to require, needlessly, ever-higher credentials for the same work.
2. Jobs have failed to change in step with the increased educational attainments and concomitant aspirations of the new workforce.
3. Vocational education in the high schools has failed to give students useful skills or place them in satisfying jobs.
4. We have largely neglected the educational needs of older workers.
5. The schools themselves are a workplace, influenced by, and influencing, other workplaces. As such, the schools would benefit from a redesign of their work.
6. The high schools have not yet discovered a proper role for themselves to play in "career education."

Dr. Gordon Law 8/ commented as follows:

"When an official report authorized by a Secretary of HEW states unequivocally that "vocational education in high schools" has failed to give students useful skills or place them in satisfying jobs, or when the report promotes the idea that "general education for work" is the best kind of career education, we are forced to say that this report is not so much the product of impartial research as it is a platform for the cherished views of some academic clitists. We challenge the research; we challenge the substance, and we challenge the language of this report."

Arthur M. Lee 9/ commented in much the same manner:

"...suggests serious inadequacies in the data upon which rather stong conclusions were reached. It raises a question as to the standards of scholarship represented by the task force and possibly of pre-existent bias. One can hardly fail to note that of the ten members of the task force none is identified professionally with vocational education. Six were Federal employees and two former Federal employees at a time when efforts to downgrade vocational education in the Federal Administration were in considerable evidence."

34 **The "Value" of Education** For some years, Americans have assumed that increasingly higher levels of education are crucial to an individual's chances for "getting ahead"—e.g., finding and keeping a good job, making more money, obtaining the respect of others. National policies—such as the G.I. Bill of Rights, and the National Defense Education Act (which emphasized scientific and technical skills)—have all been incentives to advanced educational attainment. Similarly, the expansion of professional and white-collar occupations has created a demand for workers with higher levels of education. But this interest in "attainment" has been focused on the credentials of education —high school diploma, baccalaureate, and graduate degrees— rather than on the learning. The plethora of economic articles that have appeared in recent decades, demonstrating the economic value of ever-higher education, undoubtedly abetted this emphasis on credentials. Moreover, credentialism spread well beyond the white-collar sector; high school diplomas became a prerequisite for most apprenticeships, and even for entry-level, semi-skilled jobs.

8/ Law, Op. cit. p. 2.

9/ Arthur M. Lee, Comments on "Work in America" (Unpublished Paper), p.3.

James Rhodes, [10] the ex-Governor of Ohio described the need for vocational education in the following terms:

> "The unemployment rate among younger persons is staggering, and the reason they are unemployed is that they cannot sell anything that the labor market wants to buy. The lack of saleable skills among youth is appalling. When we studied 57,116 sophomores and juniors in 206 high schools, we found that 72.6 percent desired to have vocational and technical education programs. What kinds of programs did the schools provide for them? The general college preparatory program which prepares many for nothing--except unemployment."

Rhodes [11] continued:

> "Jobs are available for those who can do something useful in our technological society. A small, but very important, segment of our youth must prepare for rewarding lives in the professions. A major, but equally important, part of our youth must prepare for exciting lives in occupations which require vocational or technical education in order to build and maintain our factories, homes, transportation system, business, and government--the backbone of our capitalistic system.
>
> We must provide high-quality vocational and technical education for the majority of our youth--to help youth needing jobs and to help jobs needing youth. There is no real security in this world outside one's own skills and abilities, except in prison. There is no way to produce less and get more.
>
> The system of education is a major cause of unemployment for youth and a significant contributor to the cause of unemployment among adults. A few schools, touched by a sense of concern for society, provide a token program of vocational education. Some youth have an opportunity to become skilled to the point that they can find and hold a job, [illegible] most of the students do not have this opportunity. They have been deluded by the "go-to-college" theme, and follow blindly this will-o'-the-wisp with little thought given to the practical aspects of the scheme. More than 50 percent of the youth

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[10] James A. Rhodes, Alternative to a Decadent Society, Howard W. Sams & Company, Inc., Indianapolis, Indiana, p. 9.

[11] Ibid, p. 15.

entering college in Ohio will drop out before graduating with little to sell in the labor market."

Continuing with the same line of thought, Rhodes 12/ said:

"It's time to drop the caste system in education. Too much emphasis has been placed on preparing every person of high school age for college. We are constantly upgrading the scope of higher education, but we have not insisted, as we must do now, that vocational and technical education be upgraded similarly.

The need for vocational and technical education is readily seen in the fact that most of our unemployment is in the age group of 16-24. In talking to many of these young people, we find that they are unemployed because they have no product skill. Rarely are they prepared for the labor force."

35 Yet, the economy itself has not been changing rapidly enough to require or to absorb the spectacular increase in the educational level of the workforce. The expansion of professional, technical, and clerical jobs absorbed only 15% of the new educated workers; the remaining 85% accepted jobs previously performed by individuals with fewer credentials.[10]

(See Response to Paragraph No. 42.)

36 While new industries have appeared in recent decades that need a well-educated workforce, most employers simply raised educational requirements without changing the nature of the jobs. There are probably a number of reasons for their actions, ranging from using credentials as a means of excluding the "undesirable," to hiring people "like one's self" to increase personal comfort. One important reason has been the belief that the more highly educated worker is likely to be more productive, more trainable, and have more self-discipline than the person with less education. However, for a large number of jobs, education and job performance appear to be inversely related. The less educated tend to remain with an employer longer and be more productive than those workers with ten or more years of education. The more highly educated workers become bored with unchallenging work and express their dissatisfaction in lower productivity and higher turnover rates.[11]

12/ Ibid, p. 36.

In commenting upon workers' satisfaction, Wool 13/ stated:

"Few people call themselves extremely satisfied with their jobs, but still fewer report extreme dissatisfaction. The model response is on the positive side of neutrality--'pretty satisfied.' The proportion dissatisfied ranges from 10-21 percent...commercial polls, especially those of the Roper organization, ask direct questions about jobs satisfaction in hundreds of samples and seldom found the proportion of dissatisfied response exceeding 20 percent.

"...there is little objective evidence to support an inference of a rising wave of discontent among workers, associated directly with the nature of their jobs. Fluctuations in some of the indicators which appeared at first blush to support this hypothesis (such as labor turnover rates, strike activity and productive growth rates) can, on closer inspection, be attributed to quite different causes, notably to the tight labor market and inflationary trends prevailing in the late 1960's and to associated labor market forces. The overall labor force participation trends--such as the sharp and sustained inflow of married women into gainful employment--simply cannot be reconciled with any hypothesis of an extensive rejection of 'low quality' work."

37 If matters continue as they are, the disparity between the supply and demand of educated workers is likely to be exacerbated in the next decade. About ten million college graduates are forecasted to enter the job market in that period, while only four million graduates will leave the workforce through retirement or death. This means that there will be 2½ college graduates competing for every "choice" job, not to mention the additional 350,000 Ph.D.'s who will be looking for work.[12] The problem would be greatly ameliorated if the highly touted "automation revolution" occurs and shifts the occupational structure of the nation in such a way as to greatly increase the demand for upper-level jobs without expanding low- and middle-level jobs. Continued growth in the economy would also create millions of new jobs, but growth alone will not change the occupational structure of the economy. Without major

13/ Harold Wool, What's Wrong With Work in America. A Review Essay Monthly Labor Review, U.S. Department of Labor, p. 41.

changes in the quantity and quality of work one consequence of this oversupply of graduates will be a large class of underemployed college graduates, disillusioned with work and resentful of the poor returns on their investment in collegiate education. Although the value of a college education is *not* solely measurable in terms of its usefulness in the marketplace, the dominant interest, constantly reinforced in America, is in its marketability. Indeed, the decline in the market value of higher education may endanger the American commitment to education, precisely because its non-market aspects have been ignored or grossly undervalued.

There should be continuous adjustment of the educational system to economic and social change. The value of increasing levels of education as a means of finding rewarding work has not been grossly over estimated. Part of the difficulty lies with changing government priorities which affect absortion of highly educated individuals due to availability of funds in some fields.

In addition, it should be mentioned that approximately eighty percent of the jobs in this Nation do not require an undergraduate college level degree. Thus, with concern for the college graduate, there must be an equal concern for the vast majority of the Nation's work force who are not college graduates.

38 The very fact that we think about "career education" and talk about the value of schooling in terms of an investment that will yield future earnings indicates not only how important work has become in our thinking, but how other motivating forces have been de-emphasized. Formal education, for example, was once conceived of much more as a "preparation for life," whether or not it led to a specific job. In other nations and cultures, the non-economic values of education have been considered predominant. For example, not long ago in rural Ireland, each child learned "his or her part in the farm economy, not as vocational preparation, but as a making ready for marriage." [18]

Assistant Secretary of Education, Sidney P. Marland and other authorities in career education have emphasized the comprehensive nature of career education. Their concepts of career education are far broader than the concept of viewing education only in terms of an investment that will yield future earnings.

39 Today, we think of career education as an end in itself, for the personal reward of earning an income for oneself, not as a preparation for life, marriage, citizenship, or any other social function. We cannot turn back to a peasant economy, of course, but the crucial point here is that we have put too much emphasis on the credentials of education. We have encouraged unreal expectations and, quite possibly, have caused a great degree of frustration among our youths who have not been able to realize the "payoff" they had anticipated.

40 The high school "drop-out" is an interesting case in point: conventional wisdom may be incorrect with respect to the bleak future ahead for high school drop-outs and the value of a high school diploma as a credential for employment. In one study, drop-outs had higher unemployment rates than high school graduates--29% versus 13%—but differences in ability and family background accounted for this gap more than did the lack of a diploma. That is, "dropping out may contribute to unemployment, but it is also a conveniently-measured symptom of more basic causes of unemployment." [14]

We do not know of a single knowledgeable career educator, whose views are widely accepted, that believes career education is an end in itself or who believes that credentialing is an integral part of career education.

Kaufman [14] and his colleagues investigated the "dropouts" of vocational education, and in describing their findings, they said:

> "As with the high school graduates, the vocational-technical dropouts fare better over the first year after the projected graduation date than do the academic dropouts. On the average, vocational-technical graduates are employed 27.8 percentage points, or over three months, more (27.8 x 12 = 3.34) than are academic dropouts. The difference is satisfactorily significant at the .01 level. Vocational-technical dropouts are employed 9.6 percentage points (1.2 months) more than academic dropouts on the average during the sixth year after the projected graduation date, but as with the graduate sample, this difference is not satisfactorily significant, so that there are no differences in the experience of dropouts from the two curricula in the sixth year after the projected graduation date. Finally, on the average over the six-year period, vocational-technical dropouts are employed 16.1 percentage points (11.6 months) more than are academic dropouts. This difference is statistically significant at the .05 level of significance."

Kaufman [15] -- and his colleagues further states:

> "The pattern of statistical significance for social earnings benefits is similar to the pattern of statistical significance for employment. By the sixth year of the projected graduation date there is no statistical difference between academic dropouts and vocational-technical dropouts. But in the first year after the projected graduation date, vocational-technical dropouts earn an average of $106 more per month than do academic dropouts. This amounts to $1,272 for the entire year, a considerable sum. The difference is statistically significant at the .05 level of significance. In contrast, there is no statistically significant difference between the earnings of the academic dropout and dropouts from the remaining three curricula--vocational-academic, vocational-comprehensive or general--for any of the three time periods measured."

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[14] Jacob Kaufman, Teh-We; Hu, Mawlin Leee, and Ernest Stromsdorfer, A Cost Effectiveness Study of Vocational Education, Institute for Human Resources, The Pennsylvania State University, University Park, Pennsylvania, p. 18.

[15] Ibid, p. 193.

In summing up the situation, Kaufman 16/ and his colleagues stated:

> "...if other things are equal, this may imply that if one is going to drop out, he should drop out from the vocational-technical curriculum rather than a nonvocational-technical curriculum since he will suffer less in terms of reduced earnings and employment relative to the graduate. Thus, while we can say nothing about the dropout saving propensities of the vocational-technical curriculum, we may be able to assert that dropouts from this curriculum fare less badly than dropouts from other curricula."

41 Once employed, drop-outs were found to earn no less than employed high school graduates, even when job seniority was controlled (when uncontrolled, the drop-outs averaged higher weekly wages). Furthermore, although drop-outs tended to have somewhat lower status jobs, they generally had higher levels of job satisfaction than did the graduates.15

(See Response to Paragraph No. 36.)

42 To sum up the foregoing: educational requirements for jobs have increased, but there is little correlation between educational achievement and job performance; college graduates are not faring as well on the job market as they used to; and high school drop-outs are not faring as poorly as expected. These findings suggest that the value of increasing levels of education (credentials) as a means of finding rewarding work has been grossly over-estimated. This does not mean that education should be valued less, for its non-market values have been ignored. But what this does mean is: (a) the validity of using education predominantly to raise income is growing more and more questionable; (b) requiring more credentials to perform an unchanged job lowers performance and reduces job satisfaction; and (c) the design of work is lagging considerably behind the changes that have occurred among the workers, including their educational attainments.

This paragraph contains a "mixed-bag" of concepts. Relating "educational achievement and job performance" to how well "college graduates" and "dropouts" fare on the job market seems inappropriate. Other points in the paragraph have been responded to previously.

16/Ibid, p. 199.

43 **Vocational Education** While the subject of drop-outs provides us with a special case for examining the relationship between credentials and several job-related factors, the subject of vocational education provides us with a general case for examining the efforts of schools to relate directly to the world of work.

The Vocational Education Amendments of 1968 state in part:

"DECLARATION OF PURPOSE

"Sec. 101. It is the purpose of this title to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the State--those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, those with special educational handicaps, and those in postsecondary schools--will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.

"DEFINITIONS

"Sec. 108. For the purposes of this title--

"(1) The term 'vocational education' means vocational technical training or retraining which is given in schools or classes (including field or laboratory work and remedial or related academic and technical instruction incident thereto) under public supervision and control or under contract with a State board or local educational agency and is conducted as part of a program designed to prepare individuals for gainful employment as semiskilled or skilled workers or technicians or subprofessionals in recognized occupations and in new and emergining occupations or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations which the Commissioner determines, and specifies by regulation, to be generally considered professional or which requires a baccalaureate or higher degree; and such term includes vocational guidance and counseling (individually or through group instruction) in connection with such training or for the purpose

> of facilitating occupational choices; instruction related to the occupation or occupations for which the students are in training or instruction necessary for students to benefit from such training; job placement; the training of persons engaged as, or preparing to become, teachers in a vocational education program or preparing such teachers to meet special education needs of handicapped students; teachers, supervisors, or directors of such teachers while in such a training program; travel of students and vocational education personnel while engaged in a training program; and the acquisition, maintenance, and repair of instructional supplies, teaching aids, and equipment, but such term does not include the construction, acquisition, or initial equipment of buildings or the acquisition or rental of land.

44 The objective of vocational education has been to provide high school graduates with marketable job skills. But in an extensive study of vocational education it was found that many students, at all school levels, were able to enjoy higher wages by moving out of their field of training as they entered the labor market. . . . The relationship of the job to the field of training appears to have no significance in influencing the level of employment, wages, and earnings following graduation. 16

Governor Rhodes 17/ commented on the purposes of vocational education as follows:

> "The primary purpose of vocational education is to equip persons for useful employment. The program is designed to serve the needs of youth and adults who are preparing to enter the world of work and the needs of adults who must have additional preparation.
>
> Vocational education gives definite purpose and meaning to education by relating it to occupational goals. It provides the technical knowledge and work skills necessary for employment, but it is more inclusive than training for job skills. It develops abilities, attitudes, work habits, and appreciations which contribute to a satisfying and productive life.

17/ Rhodes, Op. cit., p. 44.

Vocational education contributes to the general education needs of youth, such as citizenship, respect for others, and acceptance of responsibilities; but it makes its unique contribution in the field of preparation for work. Vocational education recognizes that the American worker should be competent economically, socially, emotionally, physically, and in a civic sense, and its well-rounded program of studies is aimed at developing qualified, efficient workers for industry.

Vocational education weaves together the principles of mathematics and science skills, and technical knowledge into a mix will help youth and adults to enter and adjust to employment opportunities or to upgrade themselves in their chosen field of work. A preparatory program of vocational education is essentially a "core" program. Vocational education programs prepare students for entrance into a family of occupations, not for entrance into "a" job. As an example, vocational training in the auto mechanics field would be basic to approximately 750 jobs; training in the machine field would be basic to approximately 800 jobs."

Koo [18] reported:

"Initially, the REPORT attacks vocational education on all levels by inaccurately quoting Somers' study on The Effectiveness of Vocational and Technical Programs so that it reads as follows in the REPORT'S account:

> "Many students, at all school levels, were able to enjoy higher wages by moving out of their field of training as they entered the labor market...The relationship of the job to the field of training appears to have no significance in influencing the level of employment, wages, and earnings following graduation."

The quotation is taken from Somers G.G., The Effectiveness of Vocational and Technical Programs (1971), p. 206. The original wording was as follow:

> "Contrary to the views of a number of research investigators in the vocational education field, the relatedness of the job to the field of training appears to have no

[18] Po-yen Koo "A Rebuttal to the Attack on Vocational Education in Work in America, An H.E.W. Report, "Feedback of Occupational Research and Development, The New Jersey State Department of Education, p. 2.

> significance in influencing the level of employment, wages and earnings following graduation from a vocational program...many students, at all school levels were able to enjoy higher wages by moving out of their field of training when they entered the labor market."

Such facts as reported by Somers are not in themselves an obvious condemnation of vocational education. In a free economy, such as ours, there is no standard wage system, and everybody is entitled to seek a better paying job, regardless of his background training. This situation probably happens quite often during a boom period when labor demand is high."

Koo 19/ expressed concern regarding the definition of vocational education.

> "...according to the federal acts of 1963, 1968, and 1972, vocational education must also serve the disadvantaged, the handicapped, dropouts, the potential dropouts, future homemakers and consumers. Many of these have to be served in high school. It is regrettable that the report, by deciding "the objective of vocational education has been to provide high school graduates with marketable job skills," evidently has not given much consideration to the increasing needs of such group."

45

> Among high school vocational graduates, more than half took first jobs in fields unrelated to their training, in contrast with only 25% of those who acquired specific skills in technical schools or community colleges after graduation from high school. With respect to the level of jobs taken by vocational graduates, there appears to be a disquieting, high proportion of vocational trainees in unskilled and semi-skilled jobs. A national sample of high school vocational graduates showed a fairly high proportion in such jobs three years after graduation, far more, it should be noted, than the graduates of post-high school vocational programs.[17]

19/ Ibid, p. 5.

Koo 20/ again comments:

"It is natural that workers in lower wage brackets should desire upward mobility and seek to emulate those enjoying higher wages. It is also true that the job market itself provides more flexibility for lower-wage earners (particularly the skilled and semiskilled workers) to switch around than for those on higher ladders.

As to the criticism that "a disquieting, high proportion of vocational trainees" appear to be "in unskilled and semiskilled jobs," it should be pointed out that the Vocational Education Amendments of 1968 (P.L. 90-576) spells out that "vocational education...(is) designed to prepare individuals for gainful employment as semiskilled or skilled workers... "Therefore, there is no reasons for the REPORT to condemn vocational education because its graduates obtain employment in semiskilled occupations.

First of all, the high schools should reconstruct their curricula around the principle of preparing each student for what he must undertake immediately upon leaving school. For the benefit of students and counselors, the schools should organize preparatory courses for postsecondary occupational education and for direct job entry that are parallel to the college preparatory course."

Did Smith and Thole find "high school vocational education inattentive to the unskilled and semiskilled nature of entry jobs?" Again the REPORT'S citation is contradictory to the thinking of Smith and Thole. Here is what Smith and Thole wrote:

> "Now the schools are appreciating that students expecting to enter directly into unskilled and semiskilled jobs also need work experience as an essential part of their preparation for entry into labor market. One city district, for example, has introduced an "Employment-Bound Youth" program, designed specifically to provide work experience for the students most likely headed for unskilled and semiskilled employment."

As for the assertion regarding "the competing sources of labor, and the desire of employers to do their own training when it is needed," the facts in Kalamazoo also indicated the opposite, according to Smith and Thole:

20/ Ibid, p. 2.

> '...except for periods of poor business conditions, critical shortages (of skilled labor) occur almost continuously. The medium-sized and smaller companies in Kalamazoo County, many of which engage in intermittent-type production, have special problems in training skilled workers...
>
> Smaller companies lack the facilities and resources for the selection, testing, and training necessary for successful apprenticeship courses...'

Management officials are overwhelmingly in favor of additional vocational training in Kalamazoo County. They feel that a good background in vocational education will enable workers to attain skills much more quickly after they are employed. (Later in the article, Schaefer introduces the following table which was prepared by Somers.)

PROGRAM	PERCENTAGE OF EMPLOYED HIGH SCHOOL GRADUATES IN UNSKILLED JOBS THREE YEARS AFTER GRADUSTION
Trade and Industry	5.8
Distributive	3.2
Health	.0
Agriculture	11.6
Technical	1.7
Office	.9"

Lee[21] discussed Somers' study, "The Effectiveness of Vocational and Technical Education":

> "Somers' research suffers from two defects: (1) it studies vocational education and former students of a decade and more ago, ignoring the very substantial changes that have taken place as a result of the Congressional legislation of the 1960's and extensive state and local strengthening; and (2) it relies on samples of a population that could only be identified through reporting procedures known to have been grossly inadequate.
>
> Thus, when Somers concludes that "The relationship of the job to the field of training appears to have no significance in influencing the level of employment wages, and earnings following graduation," he was probably referring to vocational education when it was still largely agriculture and home economics.

21/Lee, Op. cit. p. 1.

Very substantial numbers of students were receiving training in office occupations and many in industrial occupations who almost certainly were not included. Very few, if any, programs in distributive education, health occupations and a large number of additional occupational areas could have been represented.

This also accounts in some measure for Somers' findings that more than half of high school vocational graduates took jobs in fields unrelated to their training, and a fairly high proportion were working in unskilled and semi-skilled jobs three years after graduation. Other research has shown that many agriculture students of that period were going into non-agricultural employment, if only for the reason that a major trend in the employment market gave them no other choice. That situation has changed considerably."

46 Another study, recommending a reduced role for vocational curricula in the high school, found high school vocational education inattentive to the unskilled nature of entry jobs, the competing sources of labor, and the desire of employers to do their own training when it is needed.[18] Furthermore, it is not clear whether or not vocational training at the high school level pays off in higher wages. However, junior college graduates consistently start higher and continue to have a wage advantage over vocational high school and post-high school technical school graduates.[19]

Koo 22/ refers to the Smith and Thole study in the following manner:

"Did Smith and Thole recommend "a reduced role for vocational curricula in the high school?" No, they did not. Instead, their views were positively for additional vocational education at both the secondary and postsecondary levels, as can be seen in the following paragraphs:

'Great need exists in Kalamazoo County for additional occupation education and training programs and facilities. These programs and facilities should be designed for the benefit of youth, adults, and industry, and at both the secondary and postsecondary levels.'"

22/ Koo, Op. cit., p. 3.

47 It is sometimes argued that high school graduates with vocational training experience fewer and briefer spells of unemployment than those with only a regular high school education. But a national, longitudinal survey found that vocational graduates did not have better unemployment records than academic graduates. Among all vocational graduates, those from high school had higher unemployment rates than those taking junior college and other post-secondary vocational courses.[20] Of course, this may be a reflection of employer reliance on credentials as much as it is recognition of reduced competence of the students.

Schaefer 23/ pointed out:

"It is obvious that the Task Force indulged itself in building a case to support a previously drawn conclusion, stated in broad terms of improving the quality of work life in America. But what a sloppy piece of work in arriving at such a self-evident conclusion, and what an attack on all secondary education!

For an example of such sloppiness, I call the reader's attention to the piece of research cited in the Report which I am most familiar: the study of Kaufman, Schaefer and others, cited on p. 139 of the MIT printing. The reference and statement attributed to our study is in no way associated with either our data or our conclusions.

It is, in fact, such a blatant distortion of the facts generated by our study that it cannot be overlooked. Our two-year study of vocational education, which interviewed more than 5,200 high school graduates and over 3,200 who responded to a mailed questionnaire, did not result in all plaudits for secondary vocational education, nor did it condemn it. The nineteen recommendations pleaded for an expanded role for vocational education, much the same as is emerging presently under Dr. Marland's career education concept."

Lee 24/ indicated:

"Kaufman has done more recent research which should have been examined by the Task Force. Others have also been active in

23/Carl J. Schaefer, Feedback of Occupational Research and Development, The New Jersey State Department of Education, p. 3., 1973

24/Lee, Op. cit., p. 3.

this field. Very few scholars, including Kaufman, even yet have a great deal of confidence in the results of research in this area because of grossly inadequate data and substantial elements of subjective judgement involved."

Koo [25] indicated that the report cites a study by Kaufman and Schaefer, et. al., The Role of the Secondary Schools in the Preparation of Youth for Employment. This is evidently an erroneous citation, for the study made by Kaufman and others was not a national study. The sample of the study was taken from nine communities located in the eastern and central regions of the country. But, anyway, there were some findings in the Kaufman study that reveal, indeed, better employment records for high school vocational graduates than for academic graduates. First, there was an intercurriculum comparison of the length of time on the first job among the graduates. There the vocational graduates took the lead, as shown in the following table:

LENGTH OF TIME ON FIRST JOB, BY CURRICULUM AND SEX

	MALE			FEMALE		
	Vocational	General	Academic	Vocational	General	Academic
Median Time in Job (Months)	12.0	10.0	9.0	13.0	13.0	11.0
Mean Time in Job (Months)	16.3	15.2	13.0	17.7	17.1	15.6
Number	1026	650	479	869	131	411

[25] Koo, Op. cit., p. 4.

48 From the evaluations of vocational education, then, it appears that a very expensive form of education—costing perhaps 50–75% more than other high school curricula[21]—has a very low utility. Only a small proportion of entry-level jobs for high school graduates require the specific training and skills offered by vocational education; vocational graduates more often than not take jobs for which they were not trained; their unemployment records are not better than other high school graduates, except those in the general curriculum; and their pay isn't better. Most of the literature on vocational training in high schools arrives at the same negative evaluation: technical training in schools is based on an outmoded assessment of future needs. Students are trained without any real knowledge of how they might apply their skills in the future. All they have is an increasing recognition that the technological concepts they are learning are outdated or will be before they can use them.

"Rhodes 26/ indicated how expensive vocational education was in the State of Ohio. An example from Ohio shows this clearly. In 1967, about five thousand students were enrolled in cooperative vocational education programs. The total cost, local, state, and Federal was $300,000. Of this sum, about $250,000 was allocated to salaries of instructors and other personnel and about $50,000 was allocated to instructional materials.

The students earned $5,000,000 during the year. They paid out in income taxes $350,000--this is $50,000 more than the original investment, and it accounts only for the monetary return. You cannot go broke while make a profit."

Erick L. Lindman, 27/ in his study, which was titled Financial Support for Vocational Education in the Public Schools (1972), presents many kinds of data for both secondary and postsecondary vocational education in terms of the various sub-categories of vocational education. It is quite clear that costs for postsecondary vocational education are substantially more than for secondary vocational education. The costs figures for secondary vocational education in the Lindman study do not appear to justify the estimates given in Work in America.

26/ Rhodes, Op. cit., p. 58.

27/ Lindman, Erick L. Financial Support for Vocational Education in the Public Schools, University of California, 1972.

Secondly, Table 6.27 of the Kaufman study can be adapted to show the percentage of the vocational graduates still in jobs is higher than that of either the academic or the general graduates. It is to be noted here that the samples used in the Kaufman study were taken from the "youths who had graduated from the vocational-technical, college-preparatory, and general curriculum programs," during the preceding five years... The new adapted table is shown below:

GRADUATES STILL IN JOBS AT THE TIME OF INTERVIEW
BY CURRICULUM AND SEX

	MALE			FEMALE		
	Vocational	General	Academic	Vocational	General	Academic
(a) Still in jobs	410	224	167	354	470	156
(b) Total Number Responded	648	409	290	491	682	240
(c) Percentage $\frac{(a)}{(b)} \times 100$	63%	55%	58%	72%	69%	65%

Could the charge that "vocational graduates did not have better unemployment records than academic graduates" have been taken from Somers (for Somers' study was a national survey)? Somers' findings, however, also appear to be unsupportive of the charge. During the three-year period following their graduation, the percentages with "some full-time work" and "no full-time work" for the different groups indicate that the high school vocational graduates hold a solid advantage over the academic graduates, as shown in the following table:"

FULL-TIME PERMANENT EMPLOYMENT
SINCE GRADUATION
BY SCHOOL LEVEL
(Percentage)

	Post High School	Junior College	High School Vocational	High School Academic
Some Full-time Work	83.83	75.93	82.42	48.97
No Full-time Work	10.17	24.07	17.58	51.03

The argument that vocational education (secondary level) is more costly than other high school curriculums and therefore is a very expensive form of education is not a very persuasive argument. For example, secondary education costs more than elementary education, higher education costs more than secondary education, and military education is even more costly if one looks at dollars alone.

There are three general classes of education: (1) academic, (2) vocational, and (3) general. The authors admit that vocational education is better than general education, and it is inappropriate to compare secondary vocational education with academic (college) education; thus there is very little persuasive information in the author's paragraph.

Kaufman [28] and his colleagues discussed the placement rate for vocational and technical education students. He found:

> "The regression analysis of Chapter VIII indicates that, on the average, the graduates of vocational-technical curriculum were placed in jobs several weeks earlier than were the graduates from the comprehensive senior high school curricula. This job placement differential times the average weekly earnings of the vocational-technical graduate during this period represents an additional benefit to the graduates of the vocational-technical curriculum. Table 46 shows the estimated criterion measures for City A and C based on total current cost. On the average, the graduates from the vocational-technical senior high schools in City A were employed about four weeks sooner than the graduates from the comprehensive senior high schools in that city. During that four-week period the vocational-technical graduates earned about $73 per week before taxes, or after appropriate rounding, $295 more than their comprehensive senior high school counterparts. In City C, the

[28] Kaufman, Op. cit., p. 175.

vocational-technical graduates were employed about eight weeks sooner at average weekly before tax earnings of $72, or a total of $586. These benefit differentials are entered into the calculations at time period 4."

Warmbrod 29/ writing for the ERIC Clearinghouse at the Center for Vocational and Technical Education, Ohio State University, reviewed research on economics of vocational education. He determined:

"Those who study economic development in the United States have concluded that education is a significant contributor to economic growth. Even though precise quantitative assessment of the relation between education and economic growth has not been found, planners and policy-makers are becoming more fully aware of the extent to which investment in education and training contribute to the process of economic growth.

The basic idea relating investment in education to economic growth is that education has positive effects on the development of human talent and the development of talent, in turn, has positive effects on economic growth. Education produces a labor force that is more skilled, more adaptable to change, and more likely to develop imaginative ideas, techniques and products that are critical to the process of expansion, growth, and adaptation to change. So education by contributing to worker productivity is a process of investment in human capital."

The importance of a salable skill is indicated by Rhodes: 30/

"The loss of only one year's income due to unemployment is more than the total cost of 12 years of education through high school. Social ills of delinquency crime, and chronic dependency are related invariably to inadequate education, failure, and frustration. Society cannot continue to let the slum be the spawning ground of future unemployment and unrest."

29/ Robert J. Warmbrod, Review and Synthesis of Research on the Economics of Vocational Technical Education, (November 1968), ERIC Clearinghouse, The Center for Vocational-Technical Education, Ohio State University, Columbus, Ohio, p. 7.

30/ Rhodes, Op. cit., p. 63.

49 These conclusions are important, not only because they document the failure of attempts to relate high school education directly to work, but also because of the new interest in "career education." If career education is modeled on vocational education—if specific skills or clusters of skills are taught in traditional schools—it will very likely follow the same dismal course. Another consequence of infusing the high school curricula with career-oriented programs is that educational institutions would be instilling a "single career" concept—the notion that an individual should develop a single, lifetime, occupational role identity. Now, as we are developing systematic evidence that increasing numbers of white-collar and blue-collar workers feel "locked-in" and desire mid-career changes,[22] it is ironic that we would still be trying to put young students on an inflexible career track. (This tendency is compounded by the invidious distinction made between "academic," "general," and "vocational" high school diplomas which often brands young people for life by locking them into a career and educational path from which they cannot escape. Worse, perhaps, this distinction between credentials tends to ossify the class structure along the lines of a similar but more pervasive system found in Great Britain.)

Koo 31/ cites comments from President Nixon, Assistant Secretary Marland, Associate Commissioner Worthington concerning career education.

President Nixon:

"Career education is another area of major new emphasis, an emphasis which has grown out of my belief that our schools should be doing more to build self-reliance and self-sufficiency, to prepare students for a productive and fulfilling life... Many other Americans who have already entered the world of work find that they are dissatisfied with their jobs but feel it is too late to change directions, that they already are "locked in."

One reason for this situation is the inflexibility of our educational system, including the fact that it so rigidly separates academic and vocational curriculum... Once they have chosen one curriculum, it is difficult to move to the other.

31/ Koo, Op. cit., p. 5.

We need a new approach, and I believe the best new approach is to strengthen career education."

From Assistant Secretary Marland of HEW:

"The concept I voiced two years ago has since become known as "career development" or "career education." I prefer the latter term, since it implies a structured orientation and preparation program for every student as an integral part of his academic course work throughout the school and college years. Whatever terminology we use, inherent in the concept is the principle that our schools and colleges are accountable to students not only for developing their problem-solving skills, self-awareness and social consciousness, but for equiping them as well to earn a living in a personally satisfying career field."

From Associate Commissioner Worthington of the U.S. Office of Education:

"The fundamental concept of career education is that all educational experiences, curriculums, instruction and counseling should be geared to preparing each individual for a life of economic independence, personal fulfillment, and an appreciation for the dignity of work. Its main purpose is to prepare all students for successful and rewarding lives...

Career education is a lifelong, systemmatic way of acquainting students with the world of work in their elementary and junior high years and prepare them in high school and in college to enter into and advance in a career field of their own choosing. For adults, career education is a way to re-enter formal education and upgrade their skills in their established career field or to enter a new field. It embraces all occupations and professions and can include any individuals whether in or out of school."

It is clear, then, that none of these leaders in career education wants career education to be "modeled on vocational education," and none of them recommends an "inflexible career track" resulting in "locked-in" workers. The REPORT makes its own assumptions for career education and then attacks it on such assumptions.

Koo 32/ reacted to a statement that vocational education was a dismal and wasteful enterprise? as follows:

> "A special HEW task force report, Work in America (December 1972), (hereafter referred to as the REPORT), severely criticizes vocational education. It particularly attacks high school vocational education as being very expensive and having very low utility.
>
> Many high school vocational graduates take jobs for which they were not trained, the REPORT says, and high school vocational education appears to be inattentive to the unskilled nature of entry jobs. Also, the employment records of the high school vocational graduates are not better than those of academic high school graduates. The REPORT further charges that if career education is modeled on vocational education, it will likely follow the same "dismal" course.
>
> The REPORT argues that "to lodge skill training (especially training for a single occupation or a related cluster of occupations) in high school invites a too-early career tracking and seldom provides students with usable skills." Specific skills should be trained on the job or in postsecondary institutions, the REPORT concluded.
>
> The REPORT cites a few pieces of published research to serve as a basis for its charges against vocational education. Unfortunately, the citations are nearly always inaccurate, and the interpretations appear typically to be distorted to suit a performulated and negative frame of mind. In the following pages, accurate citations will be made to the same research papers for the sake of rebuttal."

50 By equating education to a youth activity and by confusing the notions of education and schooling, we have placed too many of our resources in traditional schools designed for people under 21 years of age. We have neglected the fact that education is a lifelong experience, and often occurs outside the classroom. And, as many educators feel, the desire for education often increases with age, as does the seriousness with which students approach it. Recognition of these facts would open up several important options for worker training—from making education available to workers at later stages in their lives to encouraging education in places other than the traditional schools.

32/ Koo, Op. cit., p. 2.

This paragraph contains some truths, some half-truths. It tends to ignore the fact that 2.8 million persons are served annually by vocational adult education programs, that informal (non-class) means of adult education abound, and that many of the programs and informal educational opportunities for adults are related to occupational education objectives. However, it is true that lifetime educational opportunity for occupational competence for all is not yet a reality and that the expanding technology of commnnications makes possible expanded opportunities for learning throughout a lifetime.

In this paragraph society is criticized for equating education as a youth activity and for not providing opportunity for adults/ workers to participate in this activity. With exceptions previously pointed out this is a relatively accurate description of education in the United States today. Most State Constitutions do not make provisions for education beyond the secondary level. Workers or adults who wish to pursue additional education beyond the secondary level face barriers such as unwillingness of employers to grant released time for education, lack of financial support during the training period, unwillingness on the part of institutions to recognize credentials unless acquired within a certain time frame, and unwillingness to recognize competency in lieu of traditional educational measurements. The United States lags behind several western European nations in providing education and training opportunities on a consistent and continuing basis during their adult years.

51 **Workplaces and Schoolplaces** It may be useful to look at the concept of career education from a vantage point that views schools as a workplace, influenced by, and influencing, other workplaces. In *Future Shock*, Alvin Toffler argues that the pre-industrial educational means of transmitting knowledge and skills crumbled before the onslaught of the mechanical age, because "industrialism required a new kind of man." He goes on to say:

> Mass education was the ingenious machine constructed by industrialism to produce the kind of adults it needed. The problem was inordinately complex. How to pre-adapt children for a new world—a world of repetitive indoor toil, smoke, noise, machines, crowded living conditions, collective discipline, a world in which time was to be regulated not by the cycle of sun and moon, but by the factory whistle and clock.
>
> The solution was an educational system that, in its very structure, simulated this new world. . . . Yet the whole idea of assembling masses of students (raw material) to be processed by teachers (workers) in a centrally located school (factory) was a stroke of industrial genius. The whole administrative hierarchy of education, as it grew up, followed the model of industrial bureaucracy. The very organization of knowledge into permanent disciplines was grounded on industrial assumptions. Children marched from place to place and sat in assigned stations. Bells rang to announce changes in time.
>
> The inner life of the school thus became an anticipatory mirror, a perfect introduction to industrial society. The most criticized features of education today—the regimentation, lack of individualization, the rigid system of seating, grouping, grading, and marking, the authoritarian role of the teacher—are precisely those that made mass public education so effective an instrument of adaptation for its place and time.[28]

There is here the suggestion that man is mastered by the machines that he has created, that he is manipulated by an advancing industrial technology. This is a simplistic view of the situation. There is some truth in the statement, but, one can also find much evidence that man, in fact, has in many ways rather effectively managed his machines in a morally responsible manner.

The criticism that schools are rigid, regimented, and lacking in concern for individual growth and development reveals a curious lack of knowledge concerning the prevailing educational philosophy since

the forties, and the recent educational emphases on individualized instruction which is the very antitheses of rigidness and regimentation. Much of the content and methodology of the career education thrust provides a "case in point."

52 This relationship between authoritarianism and rigidity in the schoolroom and the workplace—with the implicit view of man as inherently undisciplined and ignorant—probably has not directly occurred to modern educators. But the similarities between the processes were clear to Frederick Winslow Taylor, who wrote:

> No schoolteacher would think of telling children in a general way to study a certain book or subject. It is practically universal to assign each day a definite lesson beginning on one specified page and line and ending on another; and the best progress is made when . . . a definite study hour or period can be assigned in which the lesson must be learned. Most of us remain, through a great part of our lives, in this respect, grown-up children, and do our best only under pressure of a task of comparatively short duration.[24]

This citation from a 1911 publication is self serving; certainly a more recent description of a modern school without walls and reality oriented instruction could be found. The following material is taken from P.L. 90-576:

> "Sec. 171. The Congress finds that cooperative work-study programs offer many advantages in preparing young people for employment. Through such programs, a meaningful work experience is combined with formal education enabling students to acquire knowledge, skills, and appropriate attitudes. Such programs remove the artificial barriers which separate work and education and, by involving educators with employers, create interaction whereby the needs and problems of both are made known. Such interaction makes it possible for occupational curricula to be revised to reflect current needs in various occupations. It is the purpose of this part to assist the State to expand cooperative work-study programs by providing financial assistance for personnel to coordinate such programs, and to provide instruction related to the work experience; to reimburse employers when necessary for certain added costs incurred in providing on-the-job training through work experience; and to pay costs for certain services, such as transportation of students or other unusual

costs that the individual students may not reasonably be expected to assume while pursuing a cooperative work-study program.

53 Although mass education may have served its purpose well of preparing our youth for the kind of work served up in the past, the fact that today's workers are not "grown-up children," but are revolting against authoritarianism, fragmentation, routine, and other aspects of the inherited workplace, suggests that the schools are anachronistic in *their* "production" methods. The success of the schools in helping to produce Industrial Man indicates they could be successful in helping to produce the Satisfied Worker; yet they are mired in the model of Industrial Man.

This paragraph suggests that (1) workers are not grown-up since they are revolting against authoritarianism, fragmentation, and routine, and (2) schools are anachronistic because the workers are revolting against authoritarianism, fragmentation, and routine.

Exactly the opposite conclusions should be drawn; educated workers apparently are and should revolt against authoritariansm, fragmentation, and routine, and the schools should be commended for their education of students who become mature adults that can contribute more than "just" accepting orders, who can understand and contribute more than just doing a fragmented and unrelated work, and who can perform more than just routine jobs.

The statement that workers are revolting against authoritarianism, fragmentation, and routine strongly suggests that schools are maintaining curiosity, building self-confidence, inducing a love of learning, and developing confidence which are the attributes which the authors themselves suggest that students should learn. Perhaps,

the entire industrial structure should be studied to determine those factors in the "world of work" that are not conducive to job satisfaction in terms of basic human needs.

54 *If*, to produce Industrial Man, the schools had to become an "anticipatory mirror, a perfect introduction to industrial society," then to help produce the Satisfied Worker, the schools need to become another kind of anticipatory mirror, providing another perfect introduction to a changed world of work. It may be the case that a Satisfying Education would be the best precursor of Satisfying Work, and, in that sense, be a major component of "career" education.

Reference is made to the comments following paragraph 52.

55 The *process* by which education may be made more satisfying is suggested by the criticisms of the contemporary workplace: we would expect the school to become more satisfying as a place of work, just as we expect the same of other workplaces, by removing the equivalent necessity of punching a time-clock, by increasing the autonomy of the "worker," by enlarging tasks and by reducing rigidities. If students were viewed as workers and teachers as team leaders, school workplaces might be redesigned along the lines of other workplaces illustrated in this report, with a high degree of participation among all the "workers" and "team leaders" in the choice of procedures to reach the goals.

Some of the Concepts in this paragraph are adequate for both work and for education. The Concept of the Teacher as a team leader, expiditer, classroom manager, resource person and the like are accepted concepts that are being practiced in many classrooms. The authors' views appear to be predicated on concepts of education that are no longer the prevailing mode of instruction.

56 Some teachers may have the same authoritarian personalities that some managers in private industry have—so that greater autonomy among the "workers" is undesirable to them. But we cannot ignore the fact that teachers are subject to fixed hours of instruction, uniformity in subject matter, and lack of discretion in choosing the content of courses. We would expect teachers to find *their* work more satisfying if they were to function as team leaders, with a considerable amount of autonomy, rather than as supervisors demanding submissiveness and control, and if they were given what workers are asking for—the assistance, equipment, and information to do their job. In short, if we think of the school as a workplace and that like every other workplace it should be satisfying, then changes have to be introduced that will increase the satisfaction of the workers, students and teachers alike.

Reference to the methodology of vocational education might be a worthwhile effort by the authors of this material. The rote learning and rigid discipline assumed by the paragraph are not found often today. This a straw man set up to be demolished. Any professional publication of education will provide examples of freedom oriented teaching techniques.

57 If the goals of education were maintaining curiosity, maintaining and building self-confidence, inducing a love of learning, and developing competence, education would be directly relevant to the major needs expressed by the workers. Some of these, it may be recalled, are the opportunity to use one's skills and education to the full, to be reasonably autonomous in doing one's work, to have a sense of accomplishment, and to have the opportunity to learn while on the job. Earlier remarks on the importance of self-esteem are also applicable, for the school-work satisfactions that would evolve through curiosity, resourcefulness, and mastery would contribute to productivity and self-esteem on the job as well as in school.

This paragraph deals with "what the goals of education might be," and how responding to these goals might improve the satisfactions of workers at their jobs. The goals of education are described as maintaining curiosity, maintaining and building self-confidence, inducing a love of learning and developing competency, and it is implied that these goals are not being met.

Ascribing goals to an educational system that is as decentralized as that of the United States is fraught with danger; however, many of the goals that the authors ascribe to education are apparently being achieved by their own admission. For example, in paragraph 36 they state "The more highly educated workers become bored with unchallenging work and express their dissatisfaction in lower productivity and higher turnover rates." And, in paragraph 53, "...the fact that today's workers are not 'grown-up children,' but are revolting against authoritarianism, fragmentation, routine, and other aspects of the inherited workplace..." suggests that despite education's shortcomings, youth are learning much in school.

58 Educational experiments, like those in industry, suggest that school-work can be advantageously redesigned. Some schools have stopped the practice of lumping children by age, now enabling them to progress individually, and to compete not with each other but with themselves over time. Some enable the student's interest rather than a bell to determine the length of a "period" with the result that 75% to 90% of the students achieve at the same level as the top 25% do under traditional conditions.[25] There are probably as many different ways to redesign school-work as there are to redesign other kinds of work to make it more satisfying.

This paragraph is reasonably accurate, but the evidence of success in redesigning schools is not nearly as clear as suggested by the paragraph.

59 We are suggesting that "career education" will succeed to the extent that the concept develops within an understanding of the nature of work and once again *anticipates* the world of work by developing within its own workplace exemplary restructurings, and not by attempting to impart specific vocational skills.

Schaefer 33/ makes a pithy statement concerning career education when he indicates that Work in America demonstrates:

"A meager understanding of Marland's career education model -- is evident."

This paragraph implies that career education will not succeed if it attempts to impart specific vocational skills. If the concept of career education is comprehensive, then at some point in time in a person's life, specific vocational skills will be required.

60 Before leaving this topic, we should like to note a recent career education experiment which, at first glance, appears to be teaching certain vocational skills, but which is responding, in fact, to a fundamental social need. A newspaper story recounts that in Des Moines, "Grade school pupils . . . visit local businesses and see people at work in many kinds of jobs. There will be more role-playing and field trips." [26] The importance of this activity cannot be over-estimated. Simone Weil, in *The Need for Roots*, lamented how modern work has destroyed the easy awareness of their parental occupations that children had in more traditional societies.[27] More recently, Bronfenbrenner has observed:

> Although there is no systematic evidence on this subject, it appears likely that the absence of such exposure (to adults at work) contributes significantly to the growing alienation among children and youth . . .[28]

(It should be noted that our rules regarding nepotism inadvertently serve as an obstacle to reducing this source of alienation.)

33/Schaefer, Op. cit., p. 3.

This is a ringing endorsement of an elemental and venerable teaching technique. Career awareness education is using the field trip and many more sophisticated procedures for instruction. Some major areas being explored by vocational education appear in P.L. 90-576 as follows:

"(2) establishing, operating, or evaluating exemplary programs or projects designed to carry out the purposes set forth in section 141, and to broaden occupational aspirations and opportunities for youths, with special emphasis given to youths who have academic, socio-economic, or other handicaps, which programs or projects may, among others, include --

"(A) those designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupations;

"(B) programs or projects for students providing educational experiences through work during the school year or in the summer;

"(C) programs or projects for intensive occupational guidance and counseling during the last years of school and for initial job placement;

"(D) programs or projects designed to broaden or improve vocational education curriculums;

"(E) exchanges of personnel between schools and other agencies, institutions, or organizations participating in activities to achieve the purposes of this part, including manpower agencies and industry;

"(F) programs or projects for young workers released from their jobs on a part-time basis for the purpose of increasing their educational attainment; and

"(G) programs or projects at the secondary level to motivate and provide preprofessional preparation for potential teachers for vocational education.

"Sec. 191. (a) The Congress finds that curriculum development in vocational education is complicated by the diversity of occupational objectives: variations due to geography; differences in educational levels and types of programs; and by the wide range of occupations which includes, but is not limited to, agriculture, food processing and preparation, trades and industry, distribution and marketing, technical, public service, health services, business, and office occupations. It is therefore the purpose of this section to enable the Commissioner to provide appropriate assistance to State and local educational agencies in the development of curriculums for new and changing occupations, and to coordinate improvements in, and dissemination of, existing curriculum materials.

"(A) to promote the development and dissemination of vocational education curriculum materials for use in teaching occupational subjects, including curriculums for new and changing occupational fields;

"(B) to develop standards for curriculum development in all occupational fields;

"(C) to coordinate efforts of the States in the preparation of curriculum materials and prepare current lists of curriculum materials available in all occupational fields;

"(D) to survey curriculum materials produced by other agencies of Government, including the Department of Defense;

"(E) to evaluate vocational-technical education curriculum materials and their uses; and

"(F) to train personnel in curriculum development.

61 Every worker is a teacher and every workplace is a school, not because of the skills that the one may impart, nor the organization or technology that is apparent in the other, but because they deal with the real world and man's mastery therein.

Every worker may teach, but certainly every worker is not a good teacher. Many persons have a skill but can not transmit it to others; they have neither the insight nor techniques to teach. Vocational education is probably the most "real world oriented" program of the secondary and post-secondary schools in the Nation.

62 **Alternative Career Education Strategies** If specific skills are learned best on the job, in public and proprietary vocational schools, in community colleges, and in professional and graduate schools of universities, what occupational role remains for the high school? Particularly, what happens to traditional vocational education in secondary schools if education becomes a lifelong process?

An unwarranted assumption without data to support it is established in this paragraph. Where is the evidence? If it is a rhetorical question, what is its purpose?

63 Again, as with other questions we have raised in this report, there are many answers that can be offered. But an analysis from the perspective of the institution of work suggests that the regular secondary school appears to be an appropriate place to broaden formal education to include an introduction to the world of work, its meaning, its necessity for life, its rewards, its requirements, and its shortcomings.

Reference is made to the comments following paragraph 52. Also, it is quite clear that the Secondary School can and should go well beyond merely providing an introduction to the world of work, but in fact most secondary schools are already involved in vocational and career education.

64 The secondary school can prepare the young person for the transition from dependency to self-support. Perhaps through the schools some of the current unreal expectations about work that are held by young people can be dispelled, thus avoiding much of the disappointment and frustration they feel when they take their first jobs.

Career education as discussed by Marland and others utilizes a positive approach. It is the approach of controlling your own destiny, designing your future, rather than being prepared to accept the situation that exists.

65 Basically, most young people simply do not know what to expect from work or what work will require them to give. Surely, to give them this information presents a broad challenge to our high schools. Some of the alternative approaches to introducing young people to and preparing them for the world of work might be academic, benefiting from what the schools do best: providing information. In this case the information might concern the manner in which work is organized in our society, how people work alone and together to achieve certain goals. Other activities would be designed to be "action-rich," and would present a contrast to traditional, passive schooling.

Reference is made to the comments following paragraph 49.

66 **Information-Rich Alternatives** General education for work should probably be aimed at enhancing the young person's reading comprehension, arithmetical skills, the ability to write and speak clearly, and the capacity for working closely with other people. We seem to have forgotten that these skills are the ones most sought after by employers. Typically, employers find that young workers who have "learned how to learn" can quickly master the specifics of most jobs. The satisfaction of young people with their future jobs would probably be increased by this kind of training—for competence is often a great part of job satisfaction. A good general education, restructured along lines suggested above, is probably the best career education a young person can receive. Still, curricula might be widened to meet the curiosity of young people about the adult world by incorporating such information-rich topics as the following:

The paragraph identifies certain skills that the schools should concentrate on in preparing young people for work. These are limited to "general education", that is, reading comprehension, arithmetical skills, the ability to write and speak clearly, and the capacity for working closely with other people. These skills are identified as those employers <u>really</u> want. Several studies of of programs under the Manpower Development and Training Act have discovered that these are the attributes that employers verbalize as being desirable in an interview situation, but when it comes to hiring a worker specific skills are most important to the employer.

67 COURSES IN INSTITUTIONAL MANAGEMENT AND ADMINISTRATION Given that bureaucracies and large institutions (corporations, universities, government) are, and will continue to be, the dominant source of employment in the United States, it might be useful to offer courses in which students learn the procedures of large work organizations. They might explore how institutions are formed, and why they are formed. They might try to discover how these organizations operate, what they produce, how they relate to other organizations, and what roles people play in them. They could learn some of the basics that are taught in MBA programs—the basic principles of management and administration, such as how to organize a group of people to complete a given task in a given time. They could be introduced to some of the administrative problems that people are likely to face in any organization, and how people might think about such problems rationally to find solutions that are satisfying to both humans and to institutions. Such courses might help to dispel some of the unrealistic expectations young people have about work by candidly exploring the personal advantages and disadvantages (e.g., security vs. independence) of working in large organizations. A central component of such a course should be the basic principles of organizing work in order to provide for factors that lead to job satisfaction.

Institutional management type courses are presented to vocational education students in the business and office field, distributive education, and trade and industrial education. This area is also covered by business education, non-vocational, through courses in General Business. Aspects of this instruction may be found in the content of many of the vocational courses, but normally "institutional management" is not a specific course by itself.

68 COURSES IN ENTREPRENEURIAL SKILLS One of the ironies of our system is that for all of our verbal commitment to the American Dream we seldom teach our youth the basic knowledge that anyone would need who wanted to go into business for himself. In fact, this knowledge is usually transmitted from father to son in middle-class families, and is thus difficult for women or the poor to obtain. Except for those young Americans who take part in Junior Achievement, knowledge about self-employment in this country is a quite well-kept secret. Young people might benefit from learning what it means to keep books, to accumulate capital, to borrow and to invest, to buy and to sell, to take risks, to wholesale, to retail, to provide services or to manufacture and sell a good by oneself.

It is naive to indicate that entreprenurial skills are not covered by vocational education. This area is part of the business and office education cluster and an intregal part of many courses. Apparently the writer was not acquainted with the practical work of the vocational education youth groups who practice these skills to finance their activities. These groups, FFA, OEA, DECA, VICA, all are intregal parts of the instructional program...a part of the outreach of vocational education from classroom to reality.

69 These examples are intended only to be illustrative. But, any course would be effective only to the degree that it is intellectually honest. If we attempt to teach an ideology of work, rather than examining and discussing that ideology, then the courses will be worse than no courses at all.

Modern educational procedure will include both examination and discussion of the ideology of work. Again an assumption is advanced for self serving reasons.

70 **Action-Rich Alternatives** To acknowledge that the high schools are inappropriate places to learn specific, marketable technical skills is not to say that it is necessary to board up all the shops in the nation's schools. To the contrary, much of what is taught in present vocational courses could be modified into valuable, practical courses available to all students. Domestic skills, crafts, and mechanics courses need not be justified in terms of future employment, but as contributing to the educated person's basic knowledge. The young woman who does not understand how a car operates and how it is repaired, and the young man who cannot cook, are at a considerable disadvantage in life. Learning to use tools is a basic necessity that all students would benefit from learning. (Other skills, such as how to prepare t[illegible] income tax form, how to go about buying a house, and how to be an effective consumer are practical skills that can be utilized in whatever career one chooses. Also, concepts from such "academic" subjects as mathematics and physics could be integrated with a work-related curriculum.) The important issue about work-oriented courses is that they be directed at a set of skills that the students can use while they are taking the course or ones they will need no matter what jobs they eventually take. As a prime example of this, there is no reason why every high school student should not learn how to type. Not only does it make most jobs easier, the skill also can be used at home or at school. Also, if we all could type, this would be the most important step in reducing both the sex-stereotyping of the secretary role, and eliminating many hours of the least interesting aspect of the secretary's job. In conclusion, occupational courses should not be allowed to become tracking courses and might better be labeled "survival courses for an imperfect service economy."

The Action-Rich Alternatives suggested fall directly into several areas of vocational education, business and office education, home economics; some of this material is now available through the general education courses. Forcing all students to learn to type is the equivalent of forcing all students to learn Latin. It won't help a lot of them in their daily life. This requirement flies in the face of the previous insistence upon open classrooms, freedom of choice, etc., it is inconsistent.

71 There are other means by which education can become action-rich within the confines of the school. One such format that is attracting increasing interest among educators consists of so-called "games and simulations." As defined by James Coleman, these are games "in which certain social processes are explicitly mirrored in the structure and functioning of the game." [29]

Games and simulation are as old as vocational education. Lack of knowledge of the methodology of vocational education has led the authors up the primrose path to the rediscovery of both the wheel and the axle.

72 In simulating work environments the emphasis is not on decisions *per se* but on the processes through which decisions are reached. The players assume simulated roles and play according to a set of rules that provide choices and create behavior which leads to certain outcomes. These games provide a way for students to learn about "real costs" and possible long-range outcomes of various decisions—in career choice, in education, and in work. But if education is to become more than a game played in lieu of life, one goal may be to free students from the confines of school and to provide them with opportunities to mingle, associate, and work with older members of society. Cooperative education programs appear to provide at least partial responses to this need. Nearly 300,000 high school youths are currently involved in cooperative education programs that provide part-time employment while they are enrolled in school.[30] Some jobs involve only one afternoon a week, others are half-time jobs. There are several advantages to such programs—particularly when the student has had the opportunity to try two or three jobs before he finally makes up his mind to take a full-time job:
—Such jobs help to overcome age segregation and allow students the opportunity to observe adults at work and, in so doing, learn what it is like to work all day in various occupations.
—In many cases, the students are able to acquire some actual occupational skills.

—Students who have the opportunity to do blue-collar work will have a chance to overcome stereotypes about manual laborers. That many manual jobs are well paid and offer the chance to solve problems no doubt comes as a surprise to some students.
—Students are given the opportunity to make contacts in the world of work, thus enlarging their options when they come to choose what full-time jobs to take.
—Cooperative education often makes school work more meaningful for students, particularly those from disadvantaged backgrounds.
—Success is rewarded with earned income—an important badge of adulthood.
—Young people may come to know themselves better, to learn what they can and cannot do and, thus, develop realistic aspirations.

Rhodes 34/ discussed Work-Study Programs. He found:

"The Council (National Advisory Committee for Vocational Education) found great value in work-study programs. These programs are provided on a cooperative basis between the school and the occupational community, and when properly supervised, bring rich returns from several standpoints. For example, work-study arrangements related to the career objectives of the student place him in the actual environment of the world of work. He can learn for himself the value of much of the school work because it becomes a relevant experience. Subject matter of the school is taught in an atmosphere of reality, instead of the sterile pseudo situations. If the student is beset with financial problems, the work-study program enables him to earn while he is learning. It simply is not necessary for the student to drop out of school to try to find a job. In many instances, the work-study program can be related to the student's future vocation."

73 While obvious difficulties abound in expanding current cooperative education in high schools—child labor laws, lack of jobs, rigid class scheduling—the benefits would seem to make the effort worthwhile. Congress has authorized some funds for cooperative education in the 1972 Higher Education Act, but it would appear to be worth exploring further possibilities of trade-offs with other vocational education programs in order that all high school students could have the option of a cooperative experience.

34/Rhodes, Op. cit., p. 54.

Kaufman [35] and his colleagues discussed the advantage of work-study as follows:

> "Thus, for the firms in this sample which have any type of training program, vocational-technical training both shortens the training period and results in a higher hourly wage rate while in training. The better performance of vocational-technical graduates during the training period may imply a higher productivity of vocational-technical graduates than other high school curricula graduates, although we do not have any information about their differences in productivity in the sample.
>
> In short, for the firms sampled in this study, during the training period it costs the vocational-technical employees about $245 less to receive the additional training he gets in the firm. Or, which is the same thing, he received $245 more in monetary benefits by virtue of the fact that he is a graduate of (or took some training in) a vocational-technical high school."

Kaufman [36] and his colleagues commented further on the subject:

> "The academic graduate, on the other hand, has chosen a different route of training, job search and job selection. By the fact that he has taken nonspecific training, he has indicated some uncertainty as to his career interests and a desire to hedge before making his ultimate choice. The more general training, other things equal, may allow for more job options. To the extent that a job requires specific skills, however, general training will tend to result in exclusion from that job.
>
> Over time, as the academic graduate shops around among jobs and acquires more on-the-job training, he will be more likely to hit upon a job or develop skills that are in accord with his career interests. Consistent with this is the fact that the vocational-technical graduate is more likely than the academic graduate to have a job whose skills he learned most about in high school or classes. Conversely, he is less likely than the academic graduate to have jobs whose skills are picked up in an apprentice program or on formal or informal on-the-job training. In short, it is fairly clear that vocational-technical training has

35/Kaufman, Op. cit., p. 222.

36/Ibid. p. 210.

in part done what it set out to do: prepare workers for employment in specific skill areas in such a fashion that these workers do, in fact, find employment in their areas of training."

Kaufman 37/ reports:

"The relationships between curriculum and training relatedness of the first job held after graduation is statistically significant at the .01 level of significance. In addition, vocational-technical graduates were 35 percent more likely to get a training related first job after graduation than were academic graduates. Of course, this effect is partially due, no doubt, to the fact that high school graduates who don't go to college tend to get jobs in industry and trade. Therefore, a graduate who has had any vocational training at all has a better chance, other things equal, of getting a training related job than a graduate who has had no vocational training since the vocational-technical skills are directly related to specific job classes in industry.

The statistical findings show that vocational-technical graduates have earned more and been employed for a longer period than academic graduates during the six years after graduation. The differences are statistically significant. Further examination by sex interaction and race interaction results still indicate that vocational-technical graduates have better labor market performance than academic graduates."

1) During the first year after graduation, the vocational-technical graduates were employed, on net, 14 percentage points (or about 1.8 months) more than the academic graduates; vocational-comprehensive graduates were employed 13 percentage points (or 1.7 months) more; general graduates were employed 7 percentage points (or 3.6 weeks) more; and vocational-academic graduates were employed 11 percentage points (or 1.5 months) more than academic graduates. The differences are statistically significant at the .01 level."

Kaufman 38/ further states:

"Given the same socio-demographic conditions, in general, vocational-technical graduates took 11 weeks less than academic graduates to find their first job after graduation. Vocational-comprehensive and vocational-academic graduates took 10 weeks less and general curriculum graduates took 5 weeks less than academic graduates."

37/Kaufman, Op. cit., p. 148.

38/Ibid, p. 142.

In 1973 Molnar [39] and others wrote:

"Notice that there was no difference between the junior and senior year dropout rate for nonvocational programs, but that the rate decreases from the junior to senior year for coop programs and increases from the junior to senior year for non-coop programs. This may be explained by the differences in the screening of students both before the junior year and between the junior and senior year. There may be other reasons for this, but this seems to be a reasonable explanation. Two descriptors pertain only to the coop programs: There appeared to be little difficulty in finding employment for on-the-job training in the coop programs.

A substantial percentage of coop graduates (46 percent) were able to continue full-time employment with their coop employer."

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[39] Daniel Molnar, Robert Pesut, Joseph Mihalka. Cost Effectiveness of Selected Cooperative Vocational Programs as Compared With Vocational Programs Without a Cooperative Component, Battelle Columbus Laboratories, Columbus, Ohio, p. 138.

[40] Ibid, p. 142.

Molnar [41] and his colleagues provided additional information when they wrote:

> "Notice that there was no difference between the junior and senior year dropout rate for nonvocational programs, but that the rate decreases from the junior to senior year for coop programs, and increases from the junior to senior year for non-coop programs. This may be explained by the differences in the screening of students both before the junior year and between the junior and senior. There may be other reasons for this, but this seems to be a reasonable explanation. Two descriptors pertain only to the coop programs. There appeared to be little difficulty in finding employment for on-the-job training in the coop programs.
>
> A substantial percentage of coop graduates (46 percent) were able to continue full-time employment with their coop employer."

Molnar [42] and his colleagues discuss cost data for vocational education:

> "Based on the cost data collected, we used two cost measures for analysis purposes--annual cost per student and annual cost per student hour. The annual cost per student measure shows a differential of about $190, favoring coop programs. This differential is a marginal statistically significant difference. On the basis of cost per student hour, there is a differential of about $8, favoring non-coop programs. This difference is not statistically significant. There is wide variation in both measures across programs and across schools, but these variations can be explained very well as being a function of the student-teacher ratio. That is, the cost of a program is not a function of the program, nor the method, but the efficiency with which human resources (teachers) are used.
>
> Thus, our overall conclusion, based on this initial study, is that there is no obvious difference in the cost of providing either cooperative vocational education programs or those without a cooperative component."

Molnar [43] and his colleagues summarize the results of their research as follows:

41/ Ibid, p. 138.

42/ Ibid, p. 134.

43/ Ibid, p. 131.

"In summary, the following significant results were indicated by the descriptive data collected for the twenty schools in this study:

- The average age of the vocational programs was 9 years, with no significant difference between coop and non-coop programs.

- The average class size for coop programs was slightly greater than for non-coop programs, with an average of 28.5 students for junior-year classes, and 24.7 students for senior-year classes for coop programs, and an average of 24.1 students for junior-year classes, and 19.3 students for senior-classes for non-coop programs.

- A greater proportion of the coop programs had an occupational advisory committee (71.6 percent versus 61.4 percent for non-coop programs), but the proportion is relatively high for both types programs.

- The occupational advisory committees did not differ significantly by program type on their frequency of meetings, average number of members, distribution of members, or their average attendance at meetings.

- The occupational advisory committees for non-coop programs seemed to be more actively involved with these programs than were those for coop programs.

- A substantial proportion of both types of programs had prerequisities and admission criteria (an average of about 60 percent of all programs) with a slightly higher percentage for coop programs. A significant difference between program types was in a past-attendance criterion, which 72 percent of the coop programs instituted while only 25 percent of the non-coop programs instituted, and the requirement was more stringent for coop programs (an average maximum of 21 days absent in the preceding year versus 32 days for non-coop programs).

- There was little difference between program types in the average hours per week spent by students in instruction, with the exception of laboratory or shop vocational instruction, and the amount of time in the latter was two to three times greater for non-coop programs than for coop programs."

Molnar [44] and his colleagues wrote as follows about the economic advantage of vocational graduates:

". The survey of wages paid graduates showed a wage advantage of vocational graduates over academic graduates of from $.04 to $.28 per hour, or $80 to $560 per year.

. Corazzini did not calculate benefit-cost ratios, but he did calculate pay-back periods. The present value of vocational graduates' increased earnings will never equal the present value of additional costs if the wage differential is only $80 per year. This is the case if either a 5 or 10 percent discount rate is used. If the wage differential is $560 per year and a 5 percent discount rate is used, the pay-back period is 6 years. The time increases to 10 years if a 10 percent discount rate is used.

. Recalculations of benefit-cost ratios, using common methods, results in different conclusions than those reached by Corazzini. Using a 10 percent discount rate and a ten-year time horizon, and a wage differential of $.18 per hour (based on Max Eninger's nation-wide data) results in a benefit-cost ration of 1.3. This indicates that vocational high schools have returned economic benefits in excess of costs."

Warmbrod [45] indicated that:

"Taussig (1968) reported that vocational school graduates had a significantly lower rate of unemployment than academic high school graduates, 10.5 percent and 17.6 percent unemployed, respectively."

[44] Ibid, p. 21.

[45] Warmbrod, Op. cit., p. 23.

74 Another role for the high schools might be to provide more relevant and effective career counseling. Current occupational counseling, on the whole, does not appear to be as responsive to the world of work and the needs of work-bound students as educational counseling is to the world of higher education and the needs of college-bound students. For example, a recent survey found that high school counselors spend twice as much time on college-related counseling as they do on vocational topics.[31] In part, counselors are responding to the pressures of a society that values college preparation very highly. Also, the orientation of counselors may be influenced by the fact that one-half of all high school graduates now go on to college. This is a misleading fact, however, because fully two-thirds of these students never complete a four-year degree program and soon find themselves looking for a job.[32] A second myth is that most young students will find white-collar jobs. Recent statistics show that over 63% of all young men will take a blue-collar first job.[33] Perhaps our counselors have anticipated a revolution in which all of our young people become college graduates and all take white-collar jobs in the burgeoning service sector of our economy. This revolution has not yet taken place. Therefore, the drop-out and the student who is probably heading for a blue-collar job clearly require a greater share of the time of the counselors. Yet, the 1968 Manpower Report of the President states that 56% of high school graduates received some form of job guidance or counseling compared to only 22% for high school drop-outs.[34]

There is no doubt that more effective guidance and counseling is needed.

75 In summary, we have argued that to lodge skill training (especially training for a single occupation or a related cluster of occupations) in the high school invites a too-early career tracking and seldom provides students with usable skills. We have further argued that the most advantageous acquisition of specific skills occurs either on the job or in post-secondary institutions such as community colleges where there is a much closer relationship to true demand than in high schools.

It is quite clear that vocational education at the secondary level does provide usable skills, thus it is difficult to understand the rationale for suggesting that vocational training should wait until the post-secondary level. Especially, in light of the fact that a large percentage of youth do not attend formal education beyond high school.

> 76 Where training cannot be obtained on the job, there remains the problem of access to the educational institutions offering skills training. Young people who seek this kind of training seldom have sufficient funds for tuition or living expenses; thus there is clearly a need for society to help them to receive the skills they need to earn a living. There are several options for achieving this; among them are the following:
>
> —As a first step, all Federal regulations relating to student loans and scholarships to colleges and universities could be rewritten to make them applicable to community colleges, and public and proprietary vocational schools.
>
> —Tax credits or other incentives could be offered to employers who provide or underwrite training for workers, including on-the-job training.
>
> —If manpower programs are made universal, as we suggest in the next chapter that they should be, some young people could have their occupational education financed in this fashion.
>
> —One could extend the concept of the Worker Self-Renewal proposal to make younger workers eligible. Alternatively, at the age of 18 each person could be entitled to a given amount of support for further education. He could draw on this account at any point in his lifetime (a kind of universal, permanent G.I. Bill). To the extent that he draws on his account, he might repay it through an addition to his social security tax. (The account would not be a grant, but a loan which might or might not be used depending on the individual's own best judgments of his interests.)

At the present time, student loan funds are available for colleges and universities, community colleges, and public and proprietary vocational schools.

77 Perhaps the most important thing that could come out of this analysis of work and education would be to draw educators out of the schools, boards of education, and offices of education and periodically into the world of work. Without a thorough knowledge of this world, they probably will never be able to design a career education program that is responsive to the needs of young students and workers. Likewise, it would be well to attract employers and supervisors periodically into the world of education where they could acquire a greater sensitivity to the changing values of youth and, thus, a greater knowledge of the kinds of jobs they will have to provide for tomorrow's workers.

This paragraph suggests that educators should (1) periodically be drawn into the world of work, (2) have a thorough knowledge of the world if they are to design career education that is responsive to the needs of young students and workers, and (3) employers and supervisors should periodically be drawn into the world of education.

The statement is a logical statement, but the writers apparently are completely unaware of the multitude of local boards of education (composed of community, business, and industrial types), the State Advisory Council on Vocational Education (representatives of the various publics -- Vocational Education Act of 1963, as amended), and the lay representatives that nearly every vocational teacher utilizes. Many teachers, of course, do work in the "world of work" during the summer months, others utilize sabbatical leave for research, training, travel, and other work activities. In addition, there is increasing number of "community schools" with extensive community involvement.

Asking educators to have a thorough knowledge of the world (Art, literature, history, political science, natural science, social science, religion, etc.) is asking educators to be Gods. (Perhaps, the writers meant the "world of work" rather than the word, "world" and perhaps they did not mean, "thorough knowledge", but asking educators to have anything like even a cursory knowledge of the "world of work" would require an enormous amount of additional training.) Never-the-less, educators could well receive additional education or experience which is broadening, such education would of course be of benefit to the public and should be supported with public funds.

Public education, and vocational education in particular, extensively utilizes laymen or persons from the world of work in key advisory roles.

In a similar fashion, many more educators should be utilized in key advisory roles to the world of work.

Law 46/ indicated studies which might well have been used by the authors of Work in America as follow:

> "We find that although over 100 footnote references are listed for Chapter 5, only four are used which relate directly to vocational education. These are:

46/ Law, Op. cit., p. 2.

Gerald Somers, The Effectiveness of Vocational and Technical Programs, 1971.

Harold T. Smith and Henry C. Thole, Secondary and Post Secondary Occupational Education in Kalamazoo, Michigan, 1966.

Jacob J. Kaufman and Carl J. Schaefer, The Role of the Secondary Schools in the Preparation of Youth for Employment, 1967.

"Vocational Education," supplement to Journal of Human Resources, 1968.

Among the references listed but not cited in the report are many which would have shown vocational education in a more favorable light. Notable among these are the cost-benefit studies conducted by Kaufman, 1967, Hu, Lee and Stromsdorfer, 1968 and Warmbrod, 1968.

Another major research project of special significance, and one not listed in the bibliography is Morris A. Horowitz and Erwin L. Herrnstadt's follow-up study of Tool and Die Makers, 1969. This U.S. Department of Labor sponsored research traced the various paths that tool and die makers have taken to reach journeyman status. The most efficient path, it was found, was vocational machine shop instruction in high school followed by apprenticeship or on-the-job training. The Horowitz-Herrnstadt research not only illustrates the value of secondary vocational education, it also points out the additional pay off of continuing vocational education for adults. When the authors of Chapter 5 called for expanded programs of continuing career oriented education, they apparently did not realize that a great amount of this type of adult schooling already takes place in area vocational schools.

Examining the four references used in the Task Force Report, we find that the authors only cited those data that appear to confirm their preconceived views."

Lee 47/ reported on the material from the on-going, Project Baseline study:

"The results of initial research by Project Baseline indicates that the facts about vocational education at the secondary level may be in sharp contrast to those suggested in the task force report.

47/ Lee, Op. cit., pp. 3-4.

For example, more than five million students were enrolled in secondary vocational education in 1970-71, representing twenty-six percent of the total U.S. population in the 15 through 19 year age group. Total vocational education enrollment had increased 110% during the previous decade. An additional one-third of all high school students were enrolled in industrial arts and general business courses. It is difficult to believe that vocational education and other work related programs at the secondary level would attract increasing numbers of students year after year if this kind of education were a poor choice for students to make.

If the facts are, indeed, as they appear to be from the initial research of Project Baseline, that vocational education and career education in the high schools are serving an extremely important function with considerable success - then a public discussion will bring this out."

Section III

INDEX OF INADEQUACIES

Index of Inadequacy by Paragraph

In order to establish the relative merits of the Education portion of Chapter 5 of Work in America, the committee utilized words or phrases of inadequacies stated by Dr. Po-Yen Koo, Carl Schaefer, Gordon Law, and Arthur Lee as criteria for evaluating each paragraph. When each paragraph was rated in light of these criteria, the committee found the following number of weaknesses.

Criteria	Number of Inadequacies
Sweeping Indictment	19
Simplistic	17
Pedantic	7
Quasi-scientific Jargon	12
Lack of Knowledge of Vocational Education	27
Lack of Knowledge of Research Technique	8
Bias	12
Slanted Writing	15
Selective Research	9
Material Out of Context	2
Inadequate Data	5
Faulty Comparison	6
Inaccurate Reporting	6
Inadequate Data to Support Conclusions	22
Inexact Language	6
Not Germaine to Vocational Education	10
Total	183

Index of Inadequacy - Inadequacies/paragraph
183/44 = 4.2, An average of 4.2 inadequacies per paragraph.

Section IV

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BIBLIOGRAPHY

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